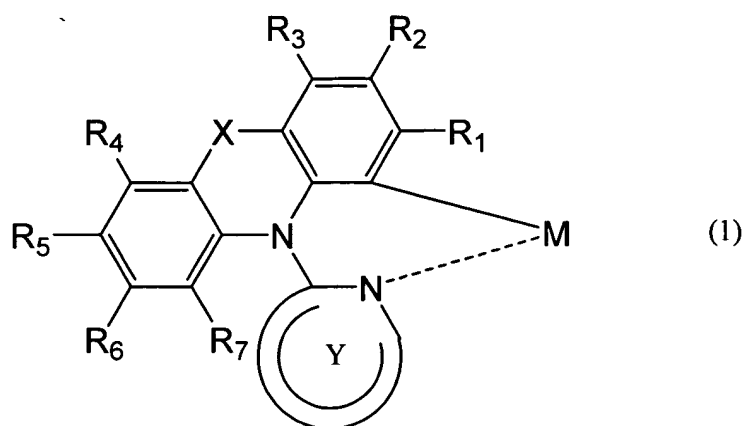


## Claims

1. A light emission material comprising:

an organometal complex having a structure represented by the following general formula (1).

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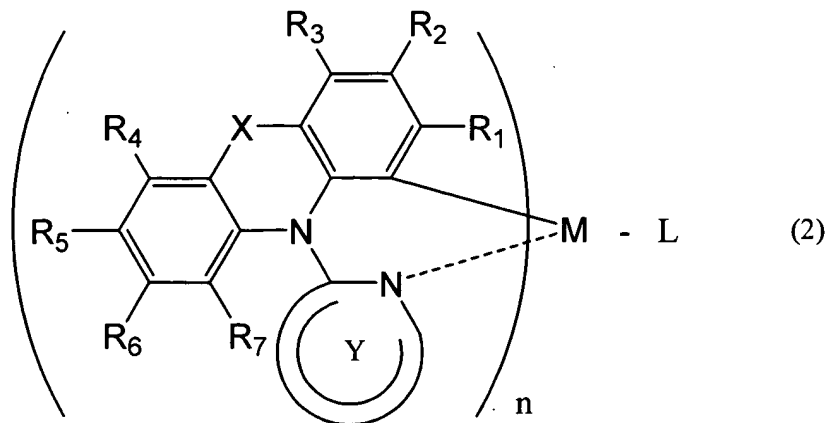


(R1 to R7 respectively represent any one of a hydrogen atom, a halogen atom, a lower alkyl group, an alkoxyl group, an acyl group, a nitro group, a cyano group, an amino group, a dialkylamino group, a diarylamino group, a vinyl group, an aryl group, or a heterocyclic residue; X represents an oxygen atom or a sulfur atom; Y represents a heterocyclic residue containing a nitrogen atom as a heteroatom; and M represents a group IX atom or a group X atom.)

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15 2. A light emission material comprising:

an organometal complex having a structure represented by the following general formula (2).



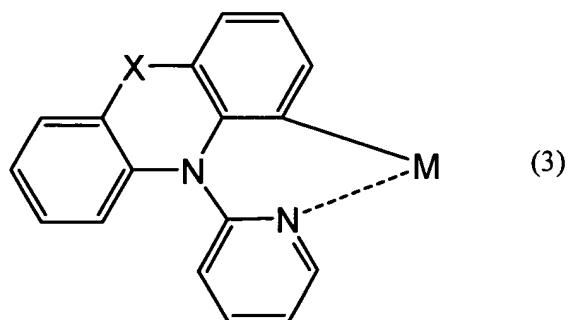
(R1 to R7 respectively represent any one of a hydrogen atom, a halogen atom, a lower alkyl group, an alkoxy group, an acyl group, a nitro group, a cyano group, an amino group, a dialkylamino group, a diarylamino group, a vinyl group, an aryl group, or a heterocyclic residue; X represents an oxygen atom or a sulfur atom; Y represents a heterocyclic residue containing a nitrogen atom as a heteroatom; M represents a group IX atom or a group X atom, and  $n = 2$  when the M is the group IX atom, while  $n = 1$  when the M is the group X atom; and L represents any one of a monoanionic bidentate chelate ligand having a beta-diketone structure, a monoanionic bidentate chelate ligand having a carboxyl group, or a monoanionic bidentate chelate ligand having a phenolic hydroxyl group.)

3. The light emission material according to claim 1 or 2, characterized in that the Y is a heterocyclic residue comprising a five-membered ring or a six-membered ring.

4. The light emission material according to claim 1 or 2, characterized in that the Y is a 2-pyridyl group.

5. A light emission material comprising:

an organometal complex having a structure represented by the following general formula (3).

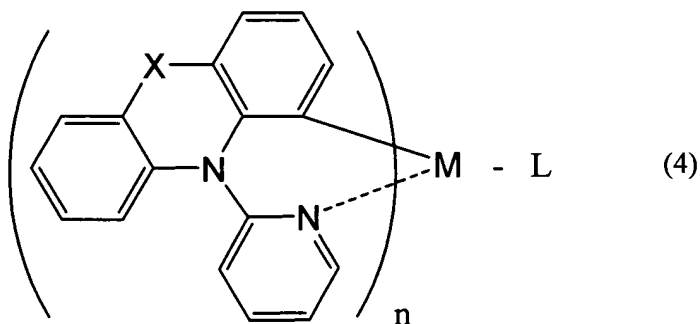


5

(X represents an oxygen atom or a sulfur atom; and M represents a group IX atom or a group X atom.)

6. A light emission material comprising:

10 an organometal complex having a structure represented by the following general formula (4).



(X represents an oxygen atom or a sulfur atom; M represents a group IX atom or a group X atom, and  $n = 2$  when the M is the group IX atom, while  $n = 1$  when the M is the group X atom; and L represents any one of a monoanionic bidentate chelate ligand having a

15

beta-diketone structure, a monoanionic bidentate chelate ligand having a carboxyl group, or a monoanionic bidentate chelate ligand having a phenolic hydroxyl group.)

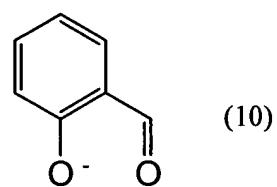
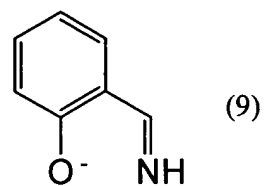
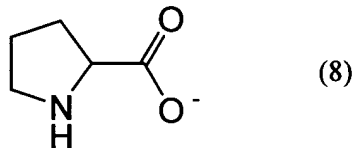
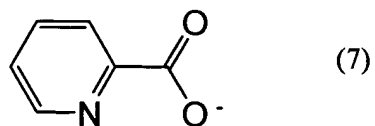
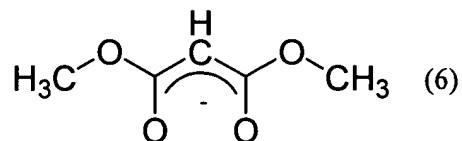
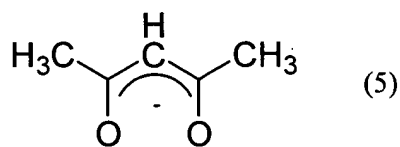
7. The light emission material according to claim 1, characterized in that the M is  
5 iridium or platinum.

8. The light emission material according to claim 2, characterized in that the M is  
iridium or platinum.

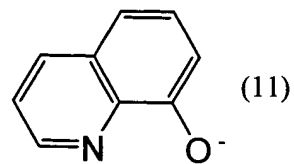
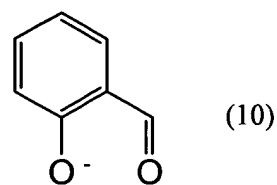
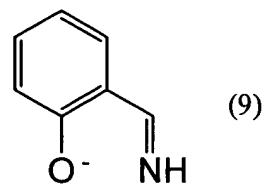
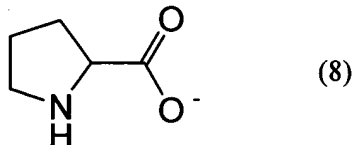
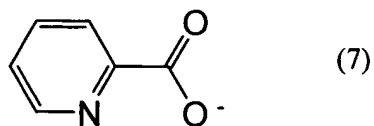
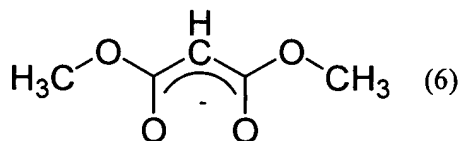
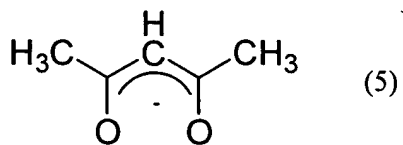
9. The light emission material according to claim 5, characterized in that the M is  
10 iridium or platinum.

10. The light emission material according to claim 6, characterized in that the M is  
iridium or platinum.

11. The organic light emission material according to claim 2, characterized in that  
15 the L is any one of monoanionic bidentate chelate ligands represented by the following  
structural formulas (5) to (11).



12. The organic light emission material according to claim 6, characterized in that the L is any one of monoanionic bidentate chelate ligands represented by the following structural formulas (5) to (11).

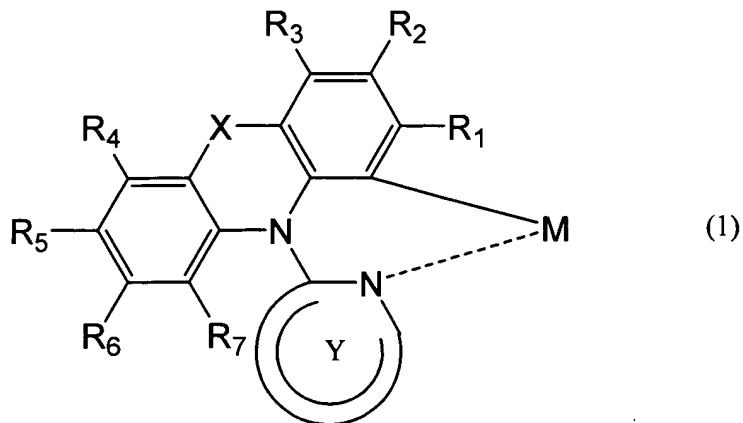


13. An electronic appliance having an electroluminescence element using the light emission material according to any one of claims 1, 2, 5, and 6.

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14. A light emission material comprising:

an organometal complex having a structure represented by the following general formula (1).

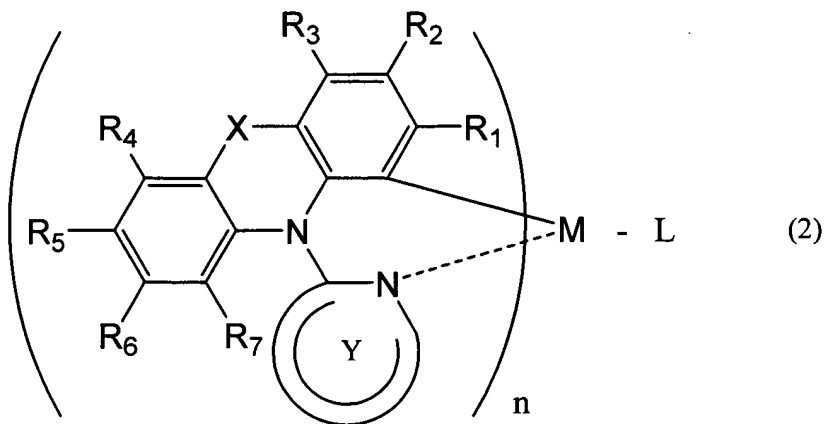


(each of pairs of R1 and R2, R2 and R3, R4 and R5, and R5 and R6 is combined into an aromatic ring; X represents an oxygen atom or a sulfur atom; Y represents a  
 5 heterocyclic residue containing a nitrogen atom as a heteroatom; and M represents a group IX atom or a group X atom.)

15. A light emission material comprising:

an organometal complex having a structure represented by the following general

10 formula (2).



(each of pairs of R1 and R2, R2 and R3, R4 and R5, and R5 and R6 is combined into an aromatic ring; X represents an oxygen atom or a sulfur atom; Y represents a heterocyclic residue containing a nitrogen atom as a heteroatom; M represents a group IX atom or a group X atom, and  $n = 2$  when the M is the group IX atom, while  $n = 1$  when the M is the group X atom; and L represents any one of a monoanionic bidentate chelate ligand having a beta-diketone structure, a monoanionic bidentate chelate ligand having a carboxyl group, or a monoanionic bidentate chelate ligand having a phenolic hydroxyl group.)

16. The light emission material according to claim 14 or 15, characterized in that the Y is a heterocyclic residue comprising a five-membered ring or a six-membered ring.

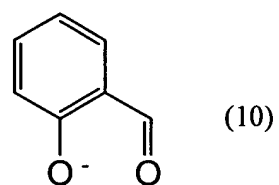
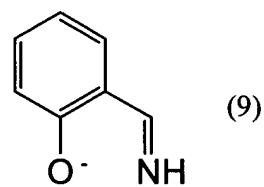
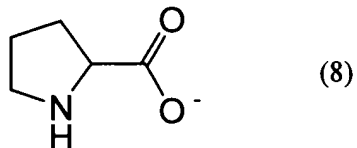
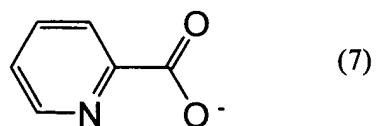
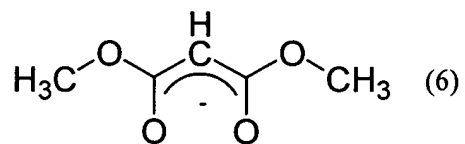
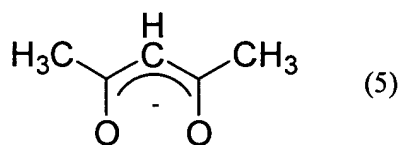
17. The light emission material according to claim 14 or 15, characterized in that the Y is a 2-pyridyl group.

18. The light emission material according to claim 14, characterized in that the M is an iridium atom or a platinum atom.

19. The light emission material according to claim 15, characterized in that the M is an iridium atom or a platinum atom.

20. The organic light emission material according to claim 15, characterized in that the L is any one of monoanionic bidentate chelate ligands represented by the following structural formulas (5) to (11).





21. An electronic appliance having an electroluminescence element using the light emission material according to claim 14 or 15.